

What is claimed is:

1. A multiple input ESD protection structure, comprising
a first p-well formed in a first n-well,
5 a second p-well formed in a second n-well,
an isolation ring between the n-wells and extending around the two n-wells,
a first input region formed in the first p-well,
a second input region formed in the second p-well,
10 a contact to the first input region,
a contact to the second input region, and
a contact to the isolation ring.
2. A structure of claim 1, wherein the isolation ring is a p+ region.
3. A structure of claim 1, wherein the isolation ring takes the form of two
15 adjacent p+ rings.
4. A structure of claim 3, wherein a n+ ring is formed between the p+ rings.
5. A structure of claim 2, wherein the isolation ring is formed in a p-well.
6. A structure of claim 5, wherein a p-buried layer (PBL) is formed below the
p-well of the isolation ring.
- 20 7. A structure of claim 4, wherein the p-rings are formed in a p-well.
8. A structure of claim 7, wherein a p-buried layer (PBL) is formed below the
p-well of the isolation ring.
9. A structure of claim 1, further comprising an n-isolation region (NISO)
formed beneath at least one of the n-wells.
- 25 10. A structure of claim 9, further comprising a p-buried layer (PBL) formed
beneath at least one of the first and second p-wells.
11. A structure of claim 4, further comprising an n-isolation region (NISO)
formed beneath at least one of the n-wells.
12. A structure of claim 11, further comprising a p-buried layer (PBL) formed
30 beneath at least one of the first and second p-wells.

13. A structure of claim 1, wherein at least one of the first and second input regions includes a p+ region and an n+ region.
14. A structure of claim 1, wherein the first input region includes only a p+ region or only a n+ region and the second input region includes both a n+ and a p+ region.
15. A structure of claim 1, wherein the first input region includes only a p+ region and the second input region includes only an n+ region.
16. A structure of claim 4, wherein at least one of the first and second input regions includes a p+ region and an n+ region.
17. A structure of claim 4, wherein the first input region includes only a p+ region or only a n+ region and the second input region includes both a n+ and a p+ region.
18. A structure of claim 4, wherein the first input region includes only a p+ region and the second input region includes only an n+ region.
19. An ESD protection device that comprises
 - a first p-well formed in a first n-well,
 - a second p-well formed in a second n-well,
 - an isolation ring between the n-wells and extending around the two n wells,
 - a first input region formed in the first p-well,
 - a second input region formed in the second p-well,
 - a contact to the first input region,
 - a contact to the second input region, and
 - a contact to the isolation ring, wherein the isolation ring is connected to ground or is biased to a predefined voltage.
20. A multiple input ESD protection structure, comprising
 - a first p-well formed in a first n-well,
 - a second p-well formed in a second n-well,
 - a first input region formed in the first p-well,
 - a second input region formed in the second p-well,

a contact to the first input region, and
a contact to the second input region, wherein one of the input regions is
connected to ground and forms at least a partial isolation ring around the other
input region.

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